## COMMON GEOMETRIC PRACTICES URBAN ROADWAYS (OTHER THAN FREEWAYS)



	URBAN	LOCAL S	URBAN COLLECTOR STREETS					URBAN ARTERIAL STREETS						
DESIGN SPEED (14)		20 M.P.H 30 M.P.H.			MIN. 30 M.P.H.				30 M.P.H 60 M.P.H.					
NUMBER OF LANES		MINIMUM 2			MINIMUM 2 (4)					MINIMUM 2 (4)				
I IANE I	RESIDENTIAL		MIN, 10'	1	MIN, 10' (2)					12' FREE FLOW CONDITION (2)				
WIDTH	COMMERCIAL		MIN. 11'		MIN. 11'			11' MIN. INTERRUPTED FLOW CONDITION						
	INDUSTRIAL		MIN. 12' 3			MIN.		3						
	RESIDENTIAL COMMERCIAL		MINIMUM 4' DESIRABLE 8' 16											
MINIMUM CLEAR ROADWAY WIDTH OF NEW AND (1) RECONSTRUCTED BRIDGES														
BERM AREA (5)		10' TYPICAL												
MINIMUM RADIUS (FEET)		<b>(6)</b>												
MAXIMUM GRADE (PERCENT)		- R) - MAX. 15% - C) - MAX. 8% - I ) - MAX. 8%			M.P.H.	30	35 40	45	50	9 M.P.H.	30	35 40	45 50	55 60
				12	LEVEL		9	8	7	LEVEL	8	7	6	5
					ROLLING	11	10	9	8	ROLLING	9	8	7	6
					MOUNTAIN		12	11	10	MOUNTAIN	11	10	9	8
NORMAL PAVEMENT 8 CROSS SLOPE		RATE OF CROSS SLOPE = 2%												
NORMAL SHOULDER CROSS SLOPE		EARTH - 8%							PAVED - 4%					
SUPEREL	EVATION	10	4% MAX.			4% MAX.				4% - 6% MAX.				
MINIMUM S		M.P.H.	20	25	30		35	40	)	45	50	5	5	60
SIGHT DISTAN		MIN.	115	155	200		250	30	5	360	425	49	5	570

- R) = RESIDENTIAL

- C) = COMMERCIAL

- I) = INDUSTRIAL

- 1 TURNING LANES: 9' MINIMUM 12' DESIRABLE; PARKING LANES: RESIDENTIAL 7' MINIMUM 10' DESIRABLE; COMMERCIAL & INDUSTRIAL 9' MINIMUM 12' DESIRABLE.
- (2) TURNING LANES: 10' MINIMUM 12' DESIRABLE; PARKING LANES: 9' MINIMUM 12' DESIRABLE.
- 3 VERTICAL CURBS WITH HEIGHTS OF 6" OR GREATER ADJACENT TO TRAVELED WAY SHOULD BE OFFSET A MINIMUM OF 1 FOOT. WHEN A CURB AND GUTTER SECTION IS PROVIDED, THE GUTTER PAN WIDTH, NORMALLY 2 FEET, SHOULD BE USED AS THE OFFSET DISTANCE.
- 4 THE NUMBER OF LANES TO BE PROVIDED ON STREETS WITH A CURRENT ADT OF 2000 OR GREATER SHOULD BE DETERMINED BY A HIGHWAY CAPACITY ANALYSIS OF THE DESIGN TRAFFIC VOLUMES. SUCH ANALYSIS SHOULD BE MADE FOR FUTURE DESIGN TRAFFIC. (DESIRABLE)
- (5) THE BERM AREA IS TYPICALLY FROM FACE OF CURB TO 2 FEET BEHIND BACK OF SIDEWALK.
- (6) REFER TO CHAPTER 3 OF AASHTO'S "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS" CURRENT EDITION.
- MINIMUM STOPPING SIGHT DISTANCES ARE BASED ON HEIGHT OF EYE 3.5 FT. & HEIGHT OF OBJECT OF 2.0 FT. BOTH HORIZONTAL & VERTICAL ALIGNMENTS CONSIDERED.
- (8) NORMAL PAVEMENT CROSS SLOPES ON BRIDGES SHALL BE 2 PERCENT.
- (9) ARTERIALS WITH LARGE NUMBERS OF TRUCKS AND OPERATING NEAR CAPACITY SHOULD CONSIDER GRADES FLATTER THAN THOSE IN RURAL SECTIONS TO AVOID UNDESIRABLE REDUCTIONS IN SPEEDS.
- (10) SUPERELEVATION MAY NOT BE REQUIRED ON LOCAL STREETS IN RESIDENTIAL AND COMMERCIAL AREAS.
- THE BRIDGE WIDTH FOR URBAN ROADWAYS WITH SHOULDERS AND NO CURBS SHOULD NOT BE LESS THAN WIDTHS SHOWN FOR RURAL ROADS APPROVED ROADWAY WIDTHS.
- (12) MAXIMUM GRADES OF SHORT LENGTHS (LESS THAN 500') AND ON ONE-WAY DOWN GRADES MAY BE ONE PERCENT STEEPER.
- (13) FOR GUIDANCE ON FREEWAYS, REFER TO AASHTO, "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS."
- (14) INTERMEDIATE DESIGN SPEEDS (5 M.P.H. INCREMENTS) MAY BE APPROPRIATE WHERE TERRAIN AND OTHER ENVIRONMENTAL CONDITIONS DICTATE.
- (5) REFER TO AASHTO'S "GUIDE FOR THE DEVELOPMENT OF BICYCLY FACILITIES", CURRENT EDITION, WHEN COMBINING A PEDESTRIAN SIDEWALK WITH A BICYCLE PATH.